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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

MILIA, MARK R

ART UNIT

PAPER NUMBER

2622

DATE MAILED: 02/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/824,836

Applicant(s)

SHIONOYA, KAZUNORI

Examiner

Mark R. Milia

Art Unit

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/30/05 has been entered. Currently, claims 1-14 are pending.

Response to Arguments

2. Applicant's arguments with respect to claims 1, 4, and 7 have been considered but are moot in view of the current amendment to the claims and therefore a new ground(s) of rejection will be made.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ho in view of U.S. Patent No. 6114751 to Kumakura et al.

Regarding claim 1, Ho discloses a memory board comprising a printed wiring board having a connector terminal (see column 1 lines 19-23 and column 3 lines 10-20), a memory device mounted on the printed wiring board and storing data used by an apparatus to which the printed wiring board is to be attached (see column 3 lines 29-34 and 54-64), and a memory controller for converting a control signal from the apparatus into a control signal suitable for access method specific to the memory device (see column 3 lines 47-51).

Ho does not disclose expressly a memory controller mounted directly on the printing wiring board.

Kumakura discloses a memory controller mounted directly on the printing wiring board (see Fig. 25 and column 19 lines 42-47).

Regarding claim 4, Ho discloses an image forming apparatus comprising: a memory board (see column 1 lines 19-23, column 2 lines 15-21, and column 3 lines 10-20), a connector for attaching the memory board (see column 3 lines 29-34), and a controller accessing the attached memory board to perform a control associated with image formation (see column 3 lines 47-50), wherein the memory board, which is connected to the connector, comprises a printed wiring board having a connector terminal, a memory device mounted on the printed wiring board, and storing data used by an apparatus to which the printed wiring board is attached, and a memory controller

for converting a control signal from the apparatus into a control signal suitable for access method specific to the memory device (see column 3 lines 40-64, column 4 lines 5-60, and column 5 lines 5-8).

Ho does not disclose expressly a memory controller mounted directly on the printing wiring board.

Kumakura discloses a memory controller mounted directly on the printing wiring board (see Fig. 25 and column 19 lines 42-47).

- Regarding claim 7, Ho discloses a memory board comprising: a printed wiring board having a connector terminal (see column 1 lines 19-23 and column 3 lines 10-20), a memory device mounted on the printed wiring board, and storing data used by an apparatus to which the printed wiring board is attached (see column 3 lines 29-34 and 54-64), and a memory controller for converting a control signal from the apparatus into a control signal suitable for access method specific to the memory device (see column 3 lines 40-51).

Ho does not disclose expressly a memory controller mounted directly on the printing wiring board.

Kumakura discloses a memory controller mounted directly on the printing wiring board (see Fig. 25 and column 19 lines 42-47).

Ho & Kumakura are combinable because they are from the same field of endeavor, memory devices.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the memory controller mounted directly on the printed wiring

board, as described by Kumakura, and which is well known in the art, with the system of Ho.

The suggestion/motivation for doing so would have been to increase processing speed by shortening the distance between memory components.

Therefore, it would have been obvious to combine Kumakura with Ho to obtain the invention as specified in claims 1, 4, and 7.

Regarding claims 2 and 5, Ho and Kumakura disclose the system discussed in claims 1 and 4, and Ho further discloses wherein the memory controller converts a control sent from the apparatus into a control compatible with the kind of the memory device (see column 3 lines 40-51).

Regarding claims 3 and 9, Ho and Kumakura disclose the system discussed in claims 1 and 7, and Ho further discloses wherein the memory controller stores a setting information relevant to the memory device and mediates data communication according to the setting information (see column 3 lines 47-51 and column 4 lines 20-32 and 39-46).

Regarding claim 6, Ho and Kumakura disclose the system discussed in claim 4, and Ho further discloses wherein the memory controller is programmed by the controller of the image forming apparatus (see column 3 lines 40-51).

Regarding claims 8, 13, and 14, Ho and Kumakura disclose the system discussed in claims 1, 4, and 7, and Ho further discloses wherein the memory controller

is a programmable device where the content of the conversion is changeable (see column 3 lines 40-50).

Regarding claims 10-12, Ho and Kumakura disclose the system discussed in claims 1, 4, and 7, and Ho further discloses wherein the memory controller is a programmable device (see column 3 lines 40-50).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. To further show the state of the art refer to the attached Notice of references Cited.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark R. Milia whose telephone number is (571) 272-7408. The examiner can normally be reached M-F 8:00am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kimberly A. Williams can be reached at (571) 272-7471. The fax number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mark R. Milia
Examiner
Art Unit 2622

MRM

JOSEPH R. POKRZYWA
PRIMARY EXAMINER
ART UNIT 2622

A handwritten signature in cursive script, reading "Joseph R. Pokrzywa".